```
RRRRRRRRRRR      MMM          MMM     SSSSSSSSSSS
RRRRRRRRRRRR     MMM          MMM     SSSSSSSSSSSS
RRRRRRRRRRRR     MMM          MMM     SSSSSSSSSSSS
RRR         RRR  MMMMMM    MMMMMM   SSS
RRR         RRR  MMMMMM    MMMMMM   SSS
RRR         RRR  MMMMMM    MMMMMM   SSS
RRR         RRR  MMM  MMM  MMM  MMM  SSS
RRR         RRR  MMM  MMM  MMM  MMM  SSS
RRR         RRR  MMM  MMM  MMM  MMM  SSS
RRRRRRRRRRRR     MMM          MMM     SSSSSSSSS
RRRRRRRRRRRR     MMM          MMM     SSSSSSSSS
RRRRRRRRRRRR     MMM          MMM     SSSSSSSSS
RRR   RRR        MMM          MMM             SSS
RRR   RRR        MMM          MMM             SSS
RRR   RRR        MMM          MMM             SSS
RRR      RRR     MMM          MMM             SSS
RRR      RRR     MMM          MMM             SSS
RRR      RRR     MMM          MMM             SSS
RRR         RRR  MMM          MMM  SSSSSSSSSSS
RRR         RRR  MMM          MMM  SSSSSSSSSSS
RRR         RRR  MMM          MMM  SSSSSSSSSSS
```

FILEID**NTOMACROS

```
NN      NN  TTTTTTTTTT    000000    MM      MM    AAAAAA     CCCCCCCC  RRRRRRRR     000000     SSSSSSSS
NN      NN  TTTTTTTTTT    000000    MM      MM    AAAAAA     CCCCCCCC  RRRRRRRR     000000     SSSSSSSS
NN      NN      TT       00    00  MMMM  MMMM   AA    AA   CC          RR     RR   00    00   SS
NN      NN      TT       00    00  MMMM  MMMM   AA    AA   CC          RR     RR   00    00   SS
NNNN    NN      TT       00    00  MM MMMM MM   AA    AA   CC          RR     RR   00    00   SS
NNNN    NN      TT       00    00  MM MMMM MM   AA    AA   CC          RR     RR   00    00   SS
NN  NN  NN      TT       00  00 00  MM    MM   AA    AA   CC          RRRRRRRR    00    00    SSSSSS
NN  NN  NN      TT       00  00 00  MM    MM   AA    AA   CC          RRRRRRRR    00    00    SSSSSS
NN    NNNN      TT       0000  00   MM    MM   AAAAAAAAAA   CC          RR   RR     00    00          SS
NN    NNNN      TT       0000  00   MM    MM   AAAAAAAAAA   CC          RR   RR     00    00          SS
NN      NN      TT       00    00   MM    MM   AA    AA   CC          RR    RR    00    00          SS      ....
NN      NN      TT       00    00   MM    MM   AA    AA   CC          RR    RR    00    00          SS      ....
NN      NN      TT         000000   MM    MM   AA    AA     CCCCCCCC  RR     RR     000000   SSSSSSSS     ....
NN      NN      TT         000000   MM    MM   AA    AA     CCCCCCCC  RR     RR     000000   SSSSSSSS     ....

MM      MM    AAAAAA    RRRRRRRR
MM      MM    AAAAAA    RRRRRRRR
MMMM  MMMM   AA    AA   RR     RR
MMMM  MMMM   AA    AA   RR     RR
MM  MM  MM   AA    AA   RR     RR
MM  MM  MM   AA    AA   RR     RR
MM      MM   AA    AA   RRRRRRRR
MM      MM   AA    AA   RRRRRRRR
MM      MM   AAAAAAAAAA RR   RR
MM      MM   AAAAAAAAAA RR   RR
MM      MM   AA    AA   RR    RR
MM      MM   AA    AA   RR    RR
MM      MM   AA    AA   RR     RR
MM      MM   AA    AA   RR     RR
```

```
        .TITLE  NTOMACROS - RMS NETWORK MACRO DEFINITIONS
        .IDENT  'V04-000'

;
;*****************************************************************************
;*                                                                           *
;*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                  *
;*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                   *
;*  ALL RIGHTS RESERVED.                                                     *
;*                                                                           *
;*  THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED    *
;*  ONLY IN  ACCORDANCE WITH  THE  TERMS  OF  SUCH  LICENSE  AND WITH THE    *
;*  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER    *
;*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY    *
;*  OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY    *
;*  TRANSFERRED.                                                             *
;*                                                                           *
;*  THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE    *
;*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT    *
;*  CORPORATION.                                                             *
;*                                                                           *
;*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS    *
;*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                  *
;*                                                                           *
;*                                                                           *
;*****************************************************************************
;

;++
; Facility: RMS
;
; Abstract:
;       This module contains MACRO definitions used by RMS network modules.
; Environment: VAX/VMS, executive mode
; Author: James A. Krycka,      Creation Date:  17-MAY-1978
; Modified By:
;       V02-004 REFORMAT        J A Krycka      26-JUL-1980
;--
```

```
        .SBTTL  CODE GENERATION MACROS

;++
; $SETBIT sets a single bit in a field.
;--

        .MACRO  $SETBIT POS,BASE,?DISPL
        BBSS    POS,BASE,DISPL
DISPL:
        .ENDM   $SETBIT

;++
; $CLRBIT clears a single bit in a field.
;--

        .MACRO  $CLRBIT POS,BASE,?DISPL
        BBCC    POS,BASE,DISPL
DISPL:
        .ENDM   $CLRBIT

;++
; $MAPBIT maps the designated bit from R1 into the designated bit in R2.
; The bit is set in R2 only if the corresponding bit is set in R1.
;--

        .MACRO  $MAPBIT SRCBIT,DSTBIT,?LABEL
        BBC     #SRCBIT,R1,LABEL
        BBCS    #DSTBIT,R2,LABEL
LABEL:
        .ENDM   $MAPBIT

;++
; $ZERO_FILL writes zeroes into the specified buffer. On completion R0-R5 are
; destroyed (with R3 containing the address of one byte beyond the buffer).
; The default is to zero 512 bytes (1 page) at the specified address.
;--

        .MACRO  $ZERO_FILL DST=,SIZE=#512
        MOVC5   #0,DST,#0,SIZE,DST
        .ENDM   $ZERO_FILL

;++
; $CASEB, $CASEW, and $CASEL generate a CASEB, CASEW, CASEL instruction,
; respectively, followed by the case displacement table. The parameters for
; each macro are:
;
;       SELECTOR = the selector operand
;       BASE     = the base operand
;       (The limit operand is calculated from the # of entries in DISPL.)
;       DISPL    = the case displacement list
;
; Note that these macro definitions place BASE after SELECTOR and DISPL so that
; BASE can be omitted when keywords are not used in the macro invocation.
;--

        .MACRO  $CASEB  SELECTOR,DISPL,BASE=#0
```

```
        $CASE   SELECTOR,<DISPL>,BASE,TYPE=B
        .ENDM   $CASEB

        .MACRO  $CASEW  SELECTOR,DISPL,BASE=#0
        $CASE   SELECTOR,<DISPL>,BASE,TYPE=W
        .ENDM   $CASEW

        .MACRO  $CASEL  SELECTOR,DISPL,BASE=#0
        $CASE   SELECTOR,<DISPL>,BASE,TYPE=L
        .ENDM   $CASEL

;++
; $CASE is a level 2 macro used by $CASEB, $CASEW, and $CASEL. It generates a
; CASE[B/W/L] instruction followed by the case displacement table. The
; parameters for this macro are:
;
;       TYPE     = operand datatype of b, w, or l
;       SELECTOR = the selector operand
;       BASE     = the base operand
;       (The limit operand is calculated from the # of entries in DISPL.)
;       DISPL    = the case displacement list
;
; Note that the macro definition places SELECTOR and DISPL ahead of BASE and
; TYPE so that the latter can be omitted when keywords are not used in the
; macro invocation.
;--

        .MACRO  $CASE   SELECTOR,DISPL,BASE=#0,TYPE=B,?TABLE
        $$COUNT=0
        .IRP    EP,<DISPL>
        $$COUNT=$$COUNT+1
        .ENDR
        .IF     EQ,$$COUNT
        .ERROR  ; ***** case displacement list is null ***** ;
        .MEXIT
        .ENDC
        CASE'TYPE       SELECTOR,BASE,#<$$COUNT-1>
TABLE:
        .IRP    EP,<DISPL>
        .WORD   EP-TABLE
        .ENDR
        .ENDM   $CASE

        .END                            ; End of module
```

RMSIDXLNK
R32

RMSCALLS
MAR

RMS
LST

RMS32MAC
MAR

RMSMSGMAC
MAR

UTLDEF
R32

RMSIDXMAC
R32

UTLDEFUND
R32

RMSINTDEF
LST

RMSIDXDEF
R32

NT0MACROS
MAR